REMARKS

I. Status of the Claims

Claims 1, 3-6 and 8-11 are currently pending in the present application. Support for the amendment to claim 1 can be found in canceled claim 2, i.e., to recite that R3 is a phenyl group. Also, claim 1 has been amended to recite that the "*charge transporting substance made of a charge transporting oligoaniline having a number average molecular weight of 250 to* ***below*** *800...*". The term "below 800" is supported by the specification at page 12, line 16, "...800 or below". In order to clarify that the claims are not open to a reaction product, Applicants have amended claim 1 as follows:

> a charge transporting substance ~~**made of**~~ **comprising** a charge transporting oligoaniline having a number average molecular weight of...
>
> or a charge transporting organic material ~~**made of**~~ **comprising** the charge transporting substance and a charge transporting dopant substance, and at least one polymer selected from polyimides and polyimide precursors,

Claims 3 and 5 have been amended so as not to depend from canceled claim 2.

Support for new claim 13 can be found in paragraph [0015] of the present specification.

Thus, there is no issue of new matter. Reconsideration of this application, as amended, is respectfully requested.

II. Rejections under 35 U.S.C. §103(a)

The following rejections are pending:

(A) Claims 1-6 and 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cameron (WO 90/11317) in view of Nalwa (Journal of Materials Science, 26 (1991) p. 1683-1690) and Oka (JP-07-090179); and

(B) Claims 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cameron in view of Nalwa, Oka and Kin (JP-11-185962).

Applicants respectfully traverse the rejections.

In Applicants' August 12, 2011 Amendment, Applicants argued that the inventive varnish contains each of an oligoaniline derivative and a polyamic acid (a polyimide precursor) or polyimide. This is contrary to the teachings of Camerono wherein polyaniline is subjected to a reaction with a carbonyl anhydride in order to prepare a conductive polymer having polyimide-like groups. That is, in Cameron, the polyaniline itself is not used for preparing a blend of a polyimide and a conductive polymer.

In response, the Examiner states:

> The examiner counters that Cameron discloses a polyaniline (which reads on applicants' oligoaniline) reacted with a tetracarboxylic dianhydride (polyimide precursor) to make a conductive polymer. Cameron's blend of said conductive polymer with a non-conductive polyimide to form a blend does not negate that Cameron discloses a conductive polymer-polyimide. As applicant claims a charge transporting varnish comprising an oligoaniline-polyimide, **blends** of other materials are not excluded from the formulation as the claim recites open the ended "comprising" term. (Emphasis added).

Applicants respectfully submit that the Examiner is misconstruing the invention. The Examiner asserts at page 5, lines 3-5 of the current Office Action that Cameron discloses a molecular weight of Formula C-1 having **800** to 900 which overlaps with the claimed molecular weight of 250-**800**. And yet, in the above-reproduced passage, the Examiner is admitting that the polyaniline is reacted with the tetracarboxylic acid. As such, the polyaniline-tetracarboxylic acid would have a molecular weight of higher than 800 (which is the upper limit of the presently claimed invention).

Furthermore, this lower molecular weight Formula C-1 of Cameron relates to a non-conductive free-base polyaniline starting polymer. To form a conductive polymer, this non-conductive free-base polyaniline is reacted with a cation donor compound such as RX, etc. where R is C1-20 alkyl. See page 10, line 13- page 16 of Cameron. As a result, Applicants believe that the obtained conductive polymer would have a molecular weight of more than 800.

On the other hand, the present invention recites a charge transporting substance made of charge transporting oligoaniline having a number average molecular weight of 250 to 800. As defined in [0013] of the specification, the term "charge transportability" means electrical

conductivity, electron transportability and charge transportability. Thus, the present invention employs a specific molecular weight with respect to the conductive oligoaniline. Based on this, Applicants believe that the non-conductive starting material of 800-900 Mw or resulting conductive polymer of more than 800 Mw of Cameron cannot be equated with the presently claimed charge transporting oligoaniline substance of 250 to 800 Mw.

Nevertheless, Applicants have amended claim 1 to recite that the "*charge transporting substance made of a charge transporting oligoaniline having a number average molecular weight of 250 to* ***below*** *800...*". This amendment has eliminated the alleged overlap in the molecular weight of Formula C-1 having **800** to 900 with the claimed molecular weight of 250 to ***below 800***.

In addition, the present invention requires that the oligoaniline is of formula (1) or an oxidized product thereof is mixed with the polymer (polyimide or polyimide precursor). However, the Examiner appears to be viewing the present claims as being open to the reaction product of the polyimide (precursor) and the oligoaniline. In order to clarify that the claims are not open to a reaction product, Applicants have amended claim 1 as follows:

> a charge transporting substance ~~**made of**~~ **comprising** a charge transporting oligoaniline having a number average molecular weight of...
>
> or a charge transporting organic material ~~**made of**~~ **comprising** the charge transporting substance and a charge transporting dopant substance, and at least one polymer selected from polyimides and polyimide precursors,

It is noted from the above-cited passage in the Office Action, that the Examiner believes the present claims are open to "blends". Applicants agree with the Examiner that claim 1 is open to "blends" (which is a mixture of essentially unreacted components), but the cited reference to Cameron does not teach a "blend". Since the components of Cameron chemically react with one another, the final composition no longer contains polyaniline and tetracarboxylic acid. As such, the polyaniline-tetracarboxylic acid final product would not be considered a "blend", but rather a wholly different species from that which is encompassed by the present claims.

Also, as acknowledged by the Examiner at page 5, line 18 of the Office Action, Cameron fails to disclose or suggest phenyl (R3) of formula (1) as an end-capping group. The Examiner relies

on Nalwa for this limitation. However, the artisan would not be motivated to use the phenyl endgroup of Nalwa on the polyaniline of Cameron, since doing so would render the polyaniline of Cameron ***unsuitable for its intended purpose***. As the Examiner admits above, the Examiner is requiring that the polyaniline reacts with the tetracarboxylic acid to give a conductive polymer. However, such a reaction would not be possible unless the end group of the polyaniline of Cameron is an amine (not a phenyl group as presently claimed).

In addition, Cameron discloses at page 10, line 28-page 11, line 16 that the conductive polymer salt is produced by salt-formation reaction. Specifically, the resulting conductive polymer of Cameron has an organic or inorganic group covalently linked to nitrogen atoms of the polymer and an anion associated with such nitrogen atoms to form a polymer salt. Thus, upon the salt-forming reaction, it is clear that the terminal amino group in the polyaniline serves an important role in forming the salt. Therefore, an artisan would not have any motivation or rationale to rely on Nalwa to adopt a phenyl group for end-capping. Accordingly, Cameron and Nalwa are not combinable. To further distinguish from Cameron, Applicants have amended claim 1 by incorporating claim 2 therein, i.e., claim 1 now recites that R3 is a phenyl group.

Accordingly, significant patentable distinctions exist between the present invention and the teachings of Cameron and Nalwa.

It is noted that the Examiner cites to Oka and Kin to cure the deficiencies of Cameron and Nalwa. Applicants respectfully submit that none of Oka and Kin cure the deficiencies (as set forth above) of Cameron and Nalwa. As such a *prima facie* case of obviousness cannot be said to exist.

Reconsideration and withdrawal of the rejections are respectfully requested.

III. Conclusion

All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding rejections and that they be withdrawn. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance.

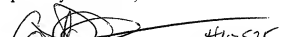
In view of the above amendment, Applicant believes the pending application is in condition for allowance.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Garth M. Dahlen, PhD, Registration No. 43,575 at the telephone number of the undersigned below to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Director is hereby authorized in this, concurrent, and future replies to charge any fees required during the pendency of the above-identified application or credit any overpayment to Deposit Account No. 02-2448.

Dated: February 9, 2012

Respectfully submitted,

By  #43575
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